



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,744	11/25/2003	Hyung-Joo Kang	1793.1064	3111
21171	7590	07/25/2006	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			GUPTA, PARUL H	
			ART UNIT	PAPER NUMBER
			2627	

DATE MAILED: 07/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/720,744

Applicant(s)

KANG ET AL.

Examiner

Parul Gupta

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-23 are pending for examination as interpreted by the examiner. The IDS filed on 11/25/03 and 4/12/05 were considered for this application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 7, 9, 10, 15, and 17-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamaguchi et al., US Patent 6,341,104.

Regarding claim 1, Yamaguchi et al. teaches in figure 5 an optical pickup actuator, comprising: a blade (40) with an objective lens (7); a plurality of suspensions (49) coupled at one end to the blade and fixed at another end to a holder, provided at one side of a base, such that the suspensions movably support the blade; first (41, 42, 43, and 44) and second (45 and 46) coil members installed on the base, separated from each other; and a magnet member (54) installed on the blade between the first and second coil members.

Regarding claim 2, Yamaguchi et al. teaches in figure 5 the optical pickup actuator of claim 1, wherein one of the first and second coil members is a focusing coil member (elements 41, 42, 43, and 44), with the other being a tracking coil member (elements 45 and 46).

Regarding claim 7, Yamaguchi et al. teaches the optical pickup actuator of claim 1, wherein the magnet member is a surface polarization magnet (column 10, lines 52-60). The given section explains how the polarization is effected in the magnets, which yields the same results.

Regarding claim 9, Yamaguchi et al. teaches in figure 1, an optical recording and/or reproducing apparatus, comprising: an optical pickup (3) having an actuator (8) for driving an objective lens, and movably installed in a radial direction of a recording medium (column 3, lines 20-25), and records and/or reproduces information to/from the recording medium (object of apparatus); and a controller controlling a focusing servo and a tracking servo of the optical pickup (inherent to design explained in column 8, lines 8-13), wherein the optical pickup actuator (shown more clearly in figure 5) includes: a blade (element 40 of figure 5) with an objective lens (element 7 of figure 5); a plurality of suspensions (element 49 of figure 5) coupled at one end to the blade and fixed at another end to a holder, provided at one side of a base, such that the suspensions movably support the blade; first (elements 41, 42, 43, and 44 of figure 5) and second (elements 45 and 46 of figure 5) coil members installed on the base, separated from each other; and a magnet member (element 54 of figure 5) installed on the blade between the first and second coil members.

Regarding claim 10, Yamaguchi et al. teaches in figure 5 the optical recording and/or reproducing apparatus of claim 9, wherein one of the first and second coil members is a focusing coil member (elements 41, 42, 43, and 44), with the other being a tracking coil member (elements 45 and 46).

Regarding claim 15, Yamaguchi et al. teaches the optical recording and/or reproducing apparatus of claim 9, wherein the magnet member is a surface polarization magnet (column 10, lines 52-60). The given section explains how the polarization is effected in the magnets, which yields the same results.

Regarding claim 17, Yamaguchi et al. teaches an optical pickup actuating method, comprising: moving a blade (shown to the far right in figure 5), including a lens (element 7 of figure 5), in tracking and/or focusing directions; and driving a coil system (shown in middle of figure 5), separated from the blade, such that an interaction with a magnet on the blade controls the moving of the blade in the tracking and/or focusing directions (column 8, lines 7-55). The given elastic tilt members are set up to cause part of the actuator to move without causing deformation.

Regarding claim 18, Yamaguchi et al. teaches the optical pickup method of claim 17, wherein the coil system (shown in middle of figure 5) includes a focusing coil member (elements 41-44 of figure 5), mounted on a base separate from the movable blade, interacting with the magnet of the blade to control the moving of the blade in the focusing direction (column 8, lines 32-55). The given elastic tilt members are set up to cause part of the actuator to move without causing deformation.

Regarding claim 19, Yamaguchi et al. teaches the optical pickup method of claim 17, wherein the coil system (shown in middle of figure 5) includes a tracking coil member (elements 45 and 46 of figure 5), mounted on a base separate from the movable blade, interacting with the magnet of the blade to control the moving of the

blade in the tracking direction (column 8, lines 8-31). The given elastic tilt members are set up to cause part of the actuator to move without causing deformation.

Regarding claim 20, Yamaguchi et al. teaches the optical pickup method of claim 17, wherein the coil system includes focusing and tracking coil members (elements 41-46 of figure 5), mounted on a base separate from the movable blade, interacting with the magnet of the blade to control the moving of the blade in the focusing and tracking directions (column 8, lines 7-55). The given elastic tilt members are set up to cause part of the actuator to move without causing deformation.

Regarding claim 21, Yamaguchi et al. teaches the optical pickup method of claim 17, wherein the coil system drives the blade in an additional radial tilting direction (column 9, lines 6-11).

Regarding claim 22, Yamaguchi et al. teaches the optical pickup method of claim 21, wherein the coil system includes focusing coil members (elements 41-44 of figure 5), tracking coil members (elements 45 and 46 of figure 5), and tilt driving coil members (function performed as described in column 9, lines 1-10), all mounted on a base separate from the movable blade, interacting with the magnet of the blade to control the moving of the blade in the focusing and tracking directions (column 8, lines 7-55). The given elastic tilt members are set up to cause part of the actuator to move without causing deformation.

Regarding claim 23, Yamaguchi et al. teaches a recording and/or reproducing method (column 2, lines 16-20), comprising: registering an electrical signal representative of data stored, or to be stored, on a recording medium (column 7, lines

55-60); and performing the optical pickup actuating method of claim 19 to control the recording and/or reproducing of data to/from the recording medium to generate the electrical signal registered as the stored data (column 8, lines 8-13), when performing the reproducing process, or to stored data on the recording medium based on the electrical signal, when performing the recording process.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3, 5, 8, 11, 13, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al. in view of Choi, US Patent Publication 2003/0198148.

Yamaguchi et al. teaches the actuator and recording/reproducing device with all of the limitations of claims 1, 2, 9, and 10. Yamaguchi et al. does not teach the explicit need for tilt driving coil members nor the need for fine pattern coils.

Regarding claim 3, Choi teaches the optical pickup actuator of claim 2, further comprising a pair of tilt driving coil members (elements 205 of figure 4).

Regarding claim 5, Choi teaches the optical pickup actuator of claim 1, further comprising a pair of tilt driving coil members (elements 205 of figure 4).

Regarding claim 11, Choi teaches the optical recording and/or reproducing apparatus of claim 10, further comprising a pair of tilt driving coil members (elements 205 of figure 4).

Regarding claim 13, Choi teaches the optical recording and/or reproducing apparatus of claim 9, further comprising a pair of tilt driving coil members (elements 205 of figure 4).

Regarding claim 8, Choi teaches the optical pickup actuator of claim 1, wherein the first and second coil members are Fine Pattern Coils (FPCs) (paragraph 0055).

Regarding claim 16, Choi teaches the optical recording and/or reproducing apparatus of claim 9, wherein the first and second coil members are Fine Pattern Coils (FPCs) (paragraph 0055).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of the given types and positions of coils as taught by Choi into the system of Yamaguchi et al. This would serve to provide an optical pick-up actuator capable of improving movement force of the focusing coil, the tracking coil and the tilting coil prepared in the corresponding position due to effect of the magnet (paragraph 0022 of Choi).

4. Claims 4, 6, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al. in view of Tanaka, US Patent Publication 2004/0130976.

Yamaguchi et al. teaches the actuator and recording/reproducing device with all of the limitations of claims 3, 5, 11, and 14. Yamaguchi et al. does not teach the explicit need for tilt driving coil members that are installed under the focusing coil member.

Regarding claim 4, Tanaka teaches the optical pickup actuator of claim 3, wherein the pair of tilt driving coil members are installed under the one coil member used as the focusing coil member. Although the reference teaches in paragraph 0047 that the tilt coil of element 22 is installed below the tracking coils of element of 20c and 20d, this would serve the same purpose of saving space as the applicant.

Regarding claim 6, Tanaka teaches the optical pickup actuator of claim 5, wherein the pair of tilt driving coil members are installed under one of the first and second coil members that is used as a focusing coil member. Although the reference teaches in paragraph 0047 that the tilt coil of element 22 is installed below the tracking coils of element of 20c and 20d, this would serve the same purpose of saving space as the applicant.

Regarding claim 12, Tanaka teaches the optical recording and/or reproducing apparatus of claim 11, wherein the pair of tilt driving coil members are installed under the one coil member used as the focusing coil member. Although the reference teaches in paragraph 0047 that the tilt coil of element 22 is installed below the tracking coils of

element of 20c and 20d, this would serve the same purpose of saving space as the applicant.

Regarding claim 14, Tanaka teaches the optical recording and/or reproducing apparatus of claim 13, wherein the pair of tilt driving coil members are installed under one of the first and second coil members that is used as a focusing coil member. Although the reference teaches in paragraph 0047 that the tilt coil of element 22 is installed below the tracking coils of element of 20c and 20d, this would serve the same purpose of saving space as the applicant.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of tilt driving members installed under focusing coil members as taught by Tanaka into the system of Yamaguchi et al. This would serve to reduce the size, thickness and weight of the recording and/or reproducing apparatus, and to reduce the cost of the apparatus (paragraph 0014 of Tanaka).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Funakoshi et al, US Patent Publication 2004/0151085 shows tilt coils under focusing coils. Jeong, US Patent 6,829,202 discloses much of the same material. Wakabayashi et al., US Patent 5,905,255 discloses much of the same material.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Parul Gupta whose telephone number is 571-272-5260.

Art Unit: 2627

The examiner can normally be reached on Monday through Thursday, from 8:30 AM to 7 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PHG
7/14/06



THANG V. TRAN
PRIMARY EXAMINER